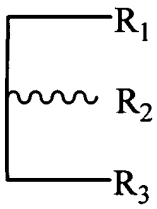
WHAT IS CLAIMED IS:

1. A method for treating a host infected with a togavirus, a coronavirus or a herpes virus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula I:



(I)

wherein:

R_1 is -NHC(O)Y, where Y is C_1-C_{22} alkyl, C_2-C_{22} alkenyl, or C_2-C_{22} alkynyl;

R_2 is -OX, where X is C_1-C_{22} alkyl, C_2-C_{22} alkenyl, C_2-C_{22} alkynyl; and

R_3 is phosphocholine;

optionally with a pharmaceutically acceptable carrier or diluent.

2. The method of claim 1, wherein

Y is C_1-C_{14} alkyl, C_2-C_{14} alkenyl, or C_2-C_{14} alkynyl; and

X is C_1-C_{14} alkyl, C_2-C_{14} alkenyl, or C_2-C_{14} alkynyl.

3. The method of claim 1 wherein:

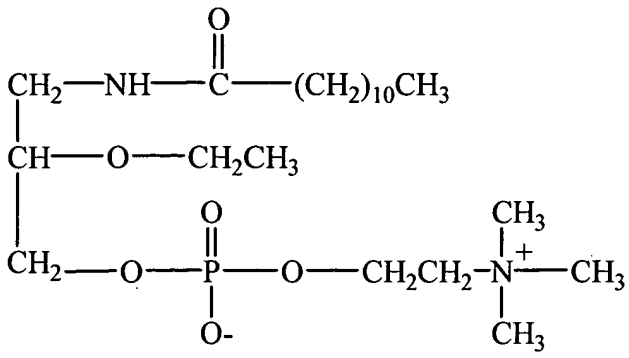
Y is $-C_{11}H_{23}$, $-C_{10}H_{21}$ or $-C_9H_{19}$; and

X is $-CH_2CH_3$, $-(CH_2)_2CH_3$, $-(CH_2)_3CH_3$, or $-CH_{10}CH_{21}$.

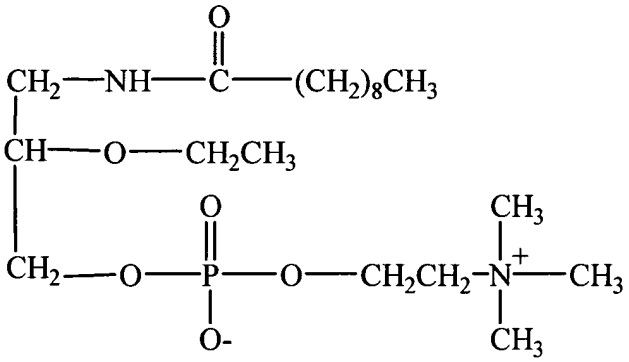
4. The method of claim 1, wherein Y is $-C_{11}H_{23}$ and X is C_1-C_5 alkyl.

5. The method of claim 1, wherein Y is $-C_9H_{19}$ and X is C_9-C_{11} alkyl.

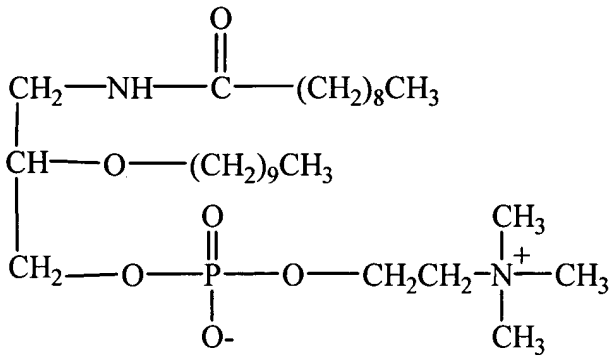
6. The method of claim 1, wherein the compound is:



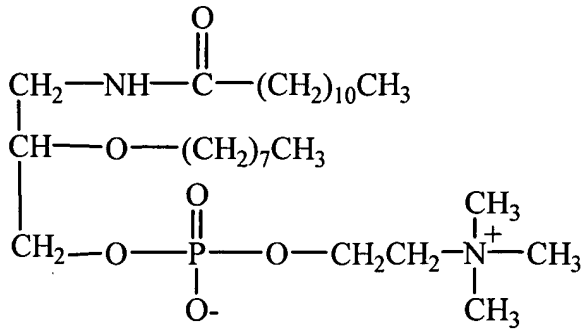
3-dodecanamido-2-ethoxypropyl-1-phosphocholine;



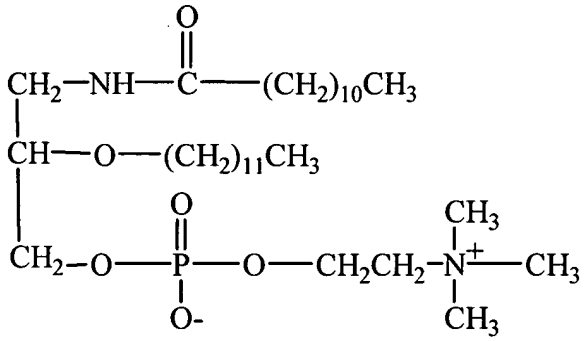
3-decanamido-2-ethoxypropyl-1-phosphocholine;



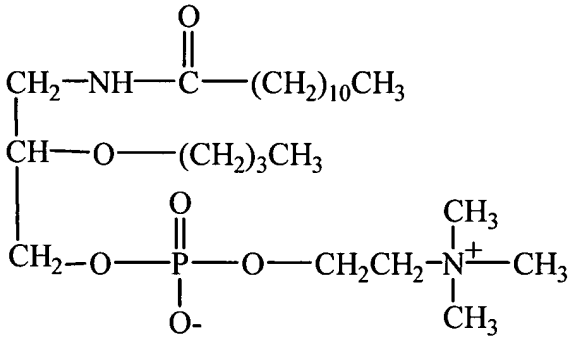
3-decanamido-2-decyloxypropyl-1-phosphocholine;



3-dodecanamido-2-octyloxypropyl-1-phosphocholine;



3-dodecanamido-2-dodecyloxy-1-phosphocholine; or



3-dodecanamido-2-butyloxypropyl-1-phosphocholine;

or a combination thereof.

7. The method of claim 1, wherein the virus is a coronavirus.

8. The method of claim 7, wherein the coronavirus is SARS-CoV.

9. The method of claim 1, wherein the virus is a herpes virus.

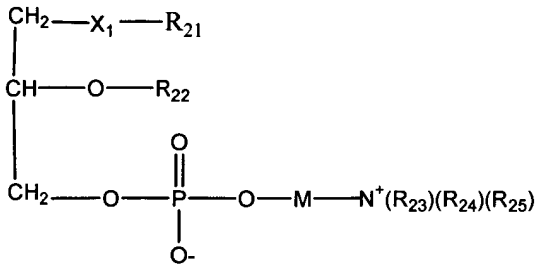
10. The method of claim 9, wherein the herpes virus is varicella zoster virus.

11. The method of claim 9, wherein the herpes virus is cytomegalovirus.

12. The method of claim 1, wherein the host is a mammal.

13. The method of claim 1, wherein the host is a human.

14. A method for treating a host infected with a togavirus, herpes virus or coronavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula II:



(II)

wherein:

M is C_2-C_4 alkyl;

X_1 is -S-, -O-, -NH-, or -NHC(O)-;

R_{21} is -C_1-C_{20} straight chain alkyl, -C_2-C_{20} straight chain alkylene containing not more than four double bonds, or aryl;

R_{22} is -C_1-C_{20} straight chain alkyl, -C_2-C_{20} straight chain alkylene containing not more than four double bonds, or aryl; and

R_{23}, R_{24}, and R_{25} are each independently either hydrogen, methyl, ethyl, propyl, or isopropyl;

optionally with a pharmaceutically acceptable carrier or diluent.

15. The method of claim 14 wherein:

M is -CH_2CH_2-;

X_1 is -S-, -O-, -NH-, or -NHC(O)-;

R_{21} is C_1-C_{16} straight chain alkyl, or -C_2-C_{16} straight chain alkylene containing not more than one double bond;

R_{22} is C_1-C_{16} straight chain alkyl, or -C_2-C_{16} straight chain alkylene containing not more than one double bond; and

R_{23}, R_{24}, and R_{25} are each independently hydrogen or methyl.

16. The method of claim 14 wherein:

R_{22} is C_1-C_5 straight chain alkyl, or -C_2-C_5 straight chain alkylene containing not more than one double bond.

17. The method of claim 15, wherein R_{21} is -C_9-C_{12} alkyl, and R_{22} is -C_1-C_{12} alkyl.

18. The method of claim 15, wherein R_{21} is -C_9-C_{12} alkyl, and R_{22} is -C_1-C_5 alkyl.

19. The method of claim 15, wherein R_{21} is -C_9-C_{12} alkyl, and R_{22} is -C_8-C_{12} alkyl.

20. The method of claim 14, wherein the virus is a coronavirus.

21. The method of claim 20, wherein the coronavirus is SARS-CoV.

22. The method of claim 14, wherein the virus is a herpes virus.

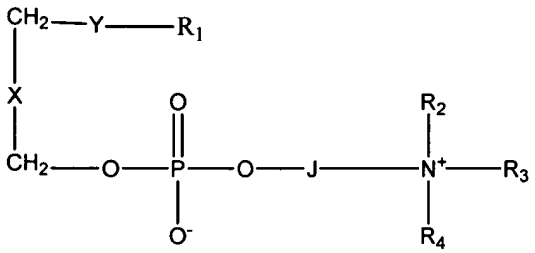
23. The method of claim 22, wherein the herpes virus is varicella zoster virus.

24. The method of claim 22, wherein the herpes virus is cytomegalovirus.

25. The method of claim 14, wherein the host is a mammal.

26. The method of claim 14, wherein the host is a human.

27. A method for treating a host infected with a togavirus, herpes virus or coronavirus comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula III:



(III)

wherein:

Y is –S-, -O-, -NH-, -N(CH_3)-, -NHC(O)-, or –N(CH_3)C(O)-;

R_1 is C_1-C_{18} alkyl, C_2-C_{18} alkenyl, C_2-C_{18} alkynyl or aryl;

X is a covalent bond or methylene that is optionally substituted with hydroxyl, C_1-C_{20} alkyl, -O-(C_1-C_{20} alkyl), -S-(C_1-C_{20} alkyl), -(C(O)N(C_1-C_{20} alkyl), C_2-C_{20} alkenyl, -O-(C_2-C_{20} alkenyl), -S-(C_2-C_{20} alkenyl), -(C(O)N(C_2-C_{20} alkenyl), C_2-C_{20} alkynyl, -O-(C_2-C_{20} alkynyl), -S-(C_2-C_{20} alkynyl) or -(C(O)N(C_2-C_{20} alkynyl);

J is C_1-C_4 alkyl optionally substituted one to three times with methyl or ethyl; and

R_2, R_3, and R_4 are H or C_1-C_3 alkyl;

optionally with a pharmaceutically acceptable carrier or diluent.

28. The method of claim 27 wherein:

Y is -NHC(O)-;

R_1 is -C_6-C_{18} alkyl;

X is -CH-O-(C_1-C_{18} alkyl) or -CH-O-(C_1-C_{18} alkenyl);

J is -CH_2CH_2-; and

R_2, R_3, and R_4 are each methyl.

29. The method of claim 28, wherein X is -CH-O-(C_1-C_5 alkyl) or -CH-O-(C_2-C_5 alkenyl);

30. The method of claim 28, wherein R_1 is -C_8-C_{12} alkyl and X is -CH-O-(C_1-C_5 alkyl) or -CH-O-(C_2-C_5 alkenyl).

31. The method of claim 28, wherein R_1 is -C_8-C_{12} alkyl and X is -CH-O-(C_8-C_{12} alkyl) or -CH-O-(C_8-C_{12} alkenyl).

32. The method of claim 27, wherein the virus is a coronavirus.

33. The method of claim 32, wherein the coronavirus is SARS-CoV.

34. The method of claim 27, wherein the virus is a herpes virus.

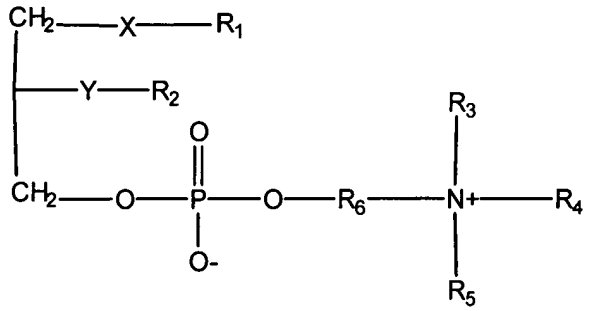
35. The method of claim 34, wherein the herpes virus is varicella zoster virus.

36. The method of claim 34, wherein the herpes virus is cytomegalovirus.

37. The method of claim 27, wherein the host is a mammal.

38. The method of claim 27, wherein the host is a human.

39. A method for treating a host infected with a coronavirus, herpes virus or togavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula IV:



(IV)

wherein:

R_1 is a C_6-C_{18} alkyl, C_6-C_{18} alkenyl, or C_6-C_{18} alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

X is -NHC(O)-, -N(CH_3)C(O)-, -C(O)NH-, -C(O)N(CH_3)-, -S-, -S(O)-, -(SO_2)-, -O-, -NH-, and –N(CH_3)-;

R_2 is a C_1-C_{14} alkyl, C_2-C_{14} alkenyl, or C_2-C_{14} alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

Y is -NHC(O)-, -N(CH_3)C(O)-, -C(O)NH-, -C(O)N(CH_3)-, -S-, -S(O)-, -(SO_2)-, -O-, -NH-, -N(CH_3)-, or -OC(O)-;

R_6 is a C_2-C_6 alkyl; C_2-C_6 alkenyl, or C_2-C_6 alkynyl; and

R_3, R_4, and R_5 are independently methyl or ethyl, or R_3 and R_4 together form an aliphatic or heterocyclic ring having five or six ring atoms and R_5 is methyl or ethyl;

optionally with a pharmaceutically acceptable carrier or diluent.

40. The method of claim 39 wherein

R_2 is C_1-C_{14} alkyl, C_2-C_{14} alkenyl, or C_2-C_{14} alkenyl;

R_6 is CH_2CH_2; and

R_3, R_4, and R_5 are each independently CH_3.

41. The method of claim 40, wherein R_2 is -C_1-C_5 alkyl or -C_1-C_5 alkenyl.

42. The method of claim 40, wherein R_1 is -C_8-C_{12} alkyl and R_2 is -C_8-C_{12} alkyl.

43. The method of claim 40, wherein R_1 is -C_8-C_{12} alkyl and R_2 is -C_1-C_5 alkyl.

44. The method of claim 40, wherein R_1 is -C_8-C_{12} alkyl and R_2 is -C_8-C_{12} alkyl.

45. The method of claim 39, wherein:

X is -NHC(O)-, -N(CH_3)C(O)-, -C(O)NH-, or -C(O)N(CH_3)-; and

Y is -O-, -NH-, or -N(CH_3)-.

46. The method of claim 39, wherein the virus is a coronavirus.

47. The method of claim 46, wherein the coronavirus is SARS-CoV.

48. The method of claim 39, wherein the virus is a herpes virus.

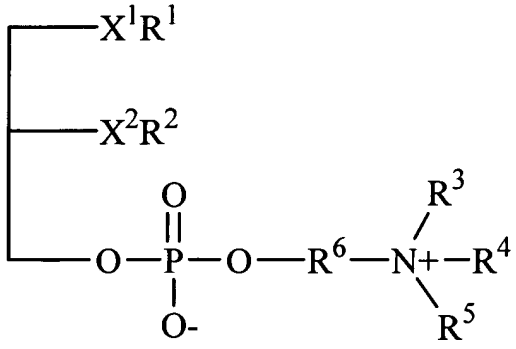
49. The method of claim 48, wherein the herpes virus is varicella zoster virus.

50. The method of claim 47, wherein the herpes virus is cytomegalovirus.

51. The method of claim 39, wherein the host is a mammal.

52. The method of claim 39, wherein the host is a human.

53. A method for treating a host infected with a coronavirus, herpes virus or togavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula AA-1:



(AA-1)

wherein:

X^1 is -NHC(O)-;

X^2 is -O-;

R^1 is -C_1-C_{22} alkyl;

R^2 is -C_1-C_{22} alkyl;

R^6 is -CH_2CH_2; and

R^3, R^4 and R^5 are methyl.

54. The method of claim 53, wherein:

R^1 is $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH_2CH_2CH_2CH_3$, $-CH_2CH_2CH_2CH_2CH_3$, $-(CH_2)_5CH_3$, $-(CH_2)_6CH_3$, $-(CH_2)_7CH_3$, $-(CH_2)_8CH_3$, $-(CH_2)_9CH_3$, $-(CH_2)_{10}CH_3$, $-(CH_2)_{11}CH_3$, $-(CH_2)_{12}CH_3$ or $-(CH_2)_{13}CH_3$; and

R^2 is $-CH_3$, $-CH_2CH_3$, $-CH_2CH_2CH_3$, $-CH_2CH_2CH_2CH_3$, $-CH_2CH_2CH_2CH_2CH_3$, $-(CH_2)_5CH_3$, $-(CH_2)_6CH_3$, $-(CH_2)_7CH_3$, $-(CH_2)_8CH_3$, $-(CH_2)_9CH_3$, $-(CH_2)_{10}CH_3$, $-(CH_2)_{11}CH_3$, $-(CH_2)_{12}CH_3$ or $-(CH_2)_{13}CH_3$.

55. The method of claim 53, wherein the host is infected with a coronavirus.

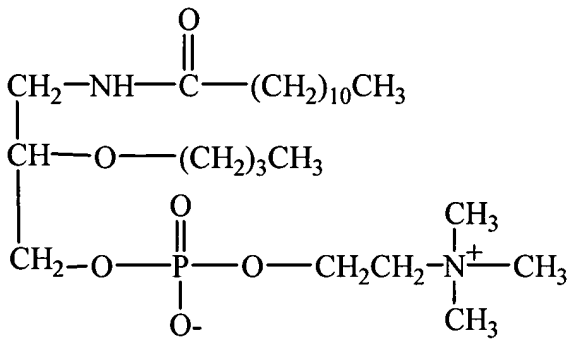
56. The method of claim 55, wherein the coronavirus is SARS-CoV.

57. The method of claim 56, wherein:

R^1 is $-(CH_2)_9CH_3$, $-(CH_2)_{10}CH_3$, or $-(CH_2)_{11}CH_3$; and

R^2 is $-CH_2CH_2CH_3$, $-CH_2CH_2CH_2CH_3$, or $-CH_2(CH_2)_3CH_3$.

58. The method of claim 56, wherein the compound is:



59. The method of claim 53, wherein the host is infected with a herpes virus.

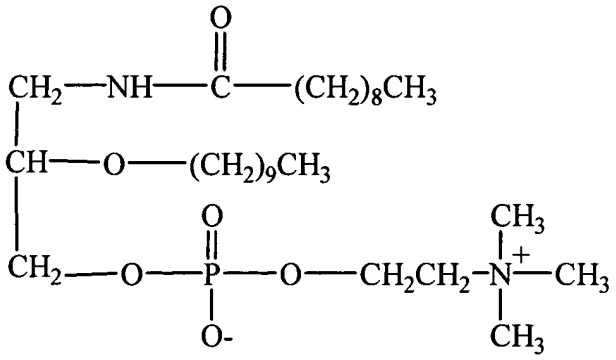
60. The method of claim 59, wherein the herpes virus is varicella zoster virus.

61. The method of claim 60, wherein:

R^1 is $-(CH_2)_7CH_3$, $-(CH_2)_8CH_3$, or $-(CH_2)_9CH_3$;

R^2 is $-(CH_2)_9CH_3$, $-(CH_2)_{10}CH_3$, or $-(CH_2)_{11}CH_3$;

62. The method of claim 60, wherein the compound is:



63. The method of claim 59, wherein the herpes virus is cytomegalovirus.

64. The method of claim 1, wherein the virus is a togavirus.

65. The method of claim 1, wherein the compound is administered orally, by inhalation, intravenously, parenterally, intradermally, subcutaneously or topically.